



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,787	02/20/2004	Michael D. Kinney	42P18515	7177
59796 7590 02/27/2008 INTEL CORPORATION c/o INTELLEVATE, LLC P.O. BOX 52050 MINNEAPOLIS, MN 55402			EXAMINER FRANCIS, MARK P	
			ART UNIT 2193	PAPER NUMBER
			MAIL DATE 02/27/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/783,787

Applicant(s)

KINNEY, MICHAEL D.

Examiner

MARK P. FRANCIS

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/20/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the application filed on February 20, 2004.
2. Claims 1-27 have been examined.

Oath/Declaration

3. The Office acknowledges receipt of a properly signed oath/declaration filed February 20, 2004.

Specification

4. The disclosure is objected to because it contains an embedded hyperlink(pg. 2: 0003 and page3:004) and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 12-17 and 24-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claim 12, this claim recites a program product comprising: a machine readable medium for accessing a firmware module that follows a portable executable format that includes an MS-DOS header and compressing the firmware

Art Unit: 2193

module by compressing the content with fill data that is more compressible than the previous content.

Inside the specification, Applicant defines medium inside to include an optical communication media which is considered to be Non-Statutory under the current 101 laws. Optical disk, optical carrier waves, and other types of transmission media are Non-Statutory subject matter under 35 U.S.C. 101. Therefore, the claim is rejected under 35 U.S.C. 101 as being Non-Statutory.

With respect to claim 24, this claim recites a apparatus comprising: a machine readable medium and a firmware module that follows a portable executable format that includes an MS-DOS header and compressing the firmware module by compressing the content with fill data that is more compressible than the previous content.

Inside the specification, Applicant defines medium to include an optical communication media which is considered to be Non-Statutory under the current 101 laws. Optical disk, optical carrier waves, and other types of transmission media are Non-Statutory subject matter under 35 U.S.C. 101. Therefore, the claim is rejected under 35 U.S.C. 101 as being Non-Statutory.

As a suggestion, Applicant could add "machine accessible storage medium instead of machine accessible medium to the language at lines 2 and 3.

Claim Rejections - 35 USC § 103

Art Unit: 2193

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larvoire(U.S. PGPUB 2003/0014622) in view of Chen.(2006/0190939)

Regarding claims 1,12, 18, and 24,

Larvoire discloses a program product(Col 1:0012, "...a system to enable a legacy Bios...EFI GPT partitions...") comprising: a machine accessible medium;(Col 2:0029, "...one or more Boot programs...") and instructions encoded in the machine accessible medium, wherein the instructions, when executed by a processing system,(Col 2:0023, "...BIOS based systems...") cause the processing system to perform operations (Col 3:0031, "...through interactions with a human operator...")comprising: accessing a firmware module within the processing system, (Col 3:0034, "...When inserting the new boot program...")wherein the firmware module follows a portable executable (PE)(Col 3:0040, "...EFI-compliant BIOS...")format having subdivisions that include an MS-DOS header;(Col 1:0003, "...MS-DOS...an operating system...", Col 1:0007, "...DOS, Windows,...", Col 4:0047, "...GPT header...") but does not disclose and flattening the firmware module by replacing existing content within at least one field within the MS-

Art Unit: 2193

DOS header of the firmware module with fill data that is more compressible than the existing content.

Chen discloses and flattening the firmware module(Col 4:0048, "...the compression partitioning approach employed...") by replacing existing content within at least one field within the MS-DOS header of the firmware module with fill data that is more compressible than the existing content(Col 4:0047, "...The rest of the missing information for the file may be padded...can be all-zero...") in an analogous system for the purpose of updating compressed firmware and software in portable devices.(Chen:Col 1:0011)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to compress firmware by replacing the existing content in the firmware module header with fill data.

The modification would have been obvious because one of ordinary skill in the art would have been motivated to update compressed firmware and software in mobile portable devices.(Chen:Col 1:0011)

Dependent claims

With respect to claims 2,13 and 19, the rejections of claims 1,12 and 18 are

Art Unit: 2193

incorporated respectively and further, Chen discloses that the operation of flattening the firmware module comprises loading fill data into at least fifty bytes of the MS-DOS header. (Col 4:0048, "...the compression partitioning approach employed...", Col 4:0047, "...The rest of the missing information for the file may be padded...can be all-zero...")

With respect to claims 3, 14 and 20, the rejections of claims 1, 12 and 18 are incorporated respectively and further, Chen discloses that the operation of flattening the firmware module comprises loading fill data into an MS-DOS stub field within the MS-DOS header. (Col 4:0048, "...the compression partitioning approach employed...", Col 4:0047, "...The rest of the missing information for the file may be padded...can be all-zero...")

With respect to claims 4, 15 and 21, the rejections of claims 1, 12 and 18 are incorporated respectively and further, Chen discloses that the operation of flattening the firmware module comprises ensuring that fill data occupies all fields within the MS-DOS header except for an lfanew field and an e-magic field. (Col 4:0047, "...only partial information...")

With respect to claims 5, 16 and 22, the rejections of claims 1, 12 and 18 are incorporated respectively and further, Larvoire discloses that the PE format also includes an optional file header (Col 2:0027, "...the GPT header..."),

Art Unit: 2193

the program product further comprising: instructions which, when executed by the processing system, cause the processing system to load fill data into at least one field within the optional file header. (Col 4:0050, "...may include a relay...")

With respect to claims 6, 17 and 23, the rejections of claims 5, 16 and 22 are incorporated respectively and further, Larvoire discloses that the operation of loading fill data into at least one field within the optional file header comprises: loading fill data into at least one of a SizeOfStackReserve field, a SizeOfStackCommit field, a SizeOfHeapReserve field, a SizeOfHeapCommit field, and a LoaderFlags field. (Col 2:0027, "...includes fields such as...HeaderSize,HeaderCRC32...")

With respect to claim 7, the rejection of claim 1 is incorporated and further Larvoire discloses: merging at least two sections from an object file into one section in the firmware module. (Col 3:0034, "...When inserting the new boot program, the setup should replace...")

With respect to claim 8, the rejection of claim 7 is incorporated and further Larvoire discloses that the operation of merging at least two sections from an object file into one section in the firmware module comprises instructing a linker to merge the at least two sections when generating the firmware module from the object file. (Col 3:0034, "...should replace the link of the previous boot program...")

With respect to claim 9, the rejection of claim 8 is incorporated and further Larvoire discloses further comprising: causing the linker to change a name of a section specified in the object file to a more compressible name. (Col 3:0042, "...As the name suggests, the micro-GPT portion may be limited...")

With respect to claim 10, the rejection of claim 1 is incorporated and further Larvoire discloses that the PE format also includes an image page, the method further comprising: storing, in the image page, an alternate file path for a debug file associated with the firmware module, wherein the alternate file path is more compressible than an original file path for the debug file. (Col 3:0027, "...The GPT boot menu may scan...")

With respect to claim 11, the rejection of claim 1 is incorporated and further Larvoire discloses that the PE format also includes an image page, the method further comprising: instructing a linker to store, (Col 3:0034, "...should replace the link...") in the image page of the firmware module, an alternate file path for a debug file associated with the firmware module, wherein the alternate file path is more compressible than an original file path for the debug file. (Col 3:0027, "...The GPT boot menu may scan...")

With respect to claim 25, the rejection of claim 24 is incorporated and further Larvoire discloses comprising: a processor communicatively coupled to the machine accessible medium; ;(Col 2:0029, "...one or more Boot programs...") memory communicatively coupled to the processor; and instructions stored in the memory, ;(Col 2:0029, "...one or

Art Unit: 2193

more Boot programs...") wherein the instructions, when executed by the processor, cause the processing system to perform operations comprising: retrieving the firmware module from the machine accessible medium; (Col 3:0034, "...When inserting the new boot program...") and executing the firmware module within a boot environment. (Col 3:0040, "...EFI-compliant BIOS...")

With respect to claim 26, the rejection of claim 24 is incorporated and further Larvoire discloses that: the machine accessible medium comprises a non-volatile storage device; and the apparatus further comprises an interface in communication with the non-volatile storage device, the interface operable to provide communication between the non-volatile storage device and a processor of a data processing system. (Col 3:0038, "...the GPT boot menu...")

With respect to claim 27, the rejection of claim 25 is incorporated and further Larvoire discloses that the apparatus comprises an adapter card for a processing system.(Col 1:0010, "...The GPT partitioned hard disk...")

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2193

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK P. FRANCIS whose telephone number is (571)272-7956. The examiner can normally be reached on Mon-Fri 8:00-4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis Bullock can be reached on (571)272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark P. Francis

Patent Examiner

Art Unit 2193



LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER

Application/Control Number: 10/783,787

Page 11

Art Unit: 2193